

## ABSTRACT OF THE DISCLOSURE

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The present invention relates to a sapphire <sup>single crystal</sup> monocrystal body to be used as the substrate of the thin growth for the semiconductor or the like as electronic parts or component parts, and to a <sup>single crystal</sup> monocrystal sapphire substrate. The invention also relates to a method for working the same. The invention utilizes that the cleavage plane of the plane R of the sapphire <sup>single crystal</sup> monocrystal body has a smooth plane high in surface precision and is easier to cleave. For an easier dividing operation, by cleaving, of the substrate after the formation of the element such as semiconductor element, functional element, the reference plane substantially parallel or vertical to the plane R is provided on the periphery of the substrate, so as to make an index for controlling the plane R in the cleavage division. A method applies forming linear crack parallel or vertical to the reference plane of the substrate, having microcrack line as a starting point to develop the crack in the thickness direction.

In the laser diode under the invention, the <sup>single crystal</sup> monocrystal sapphire substrate which forms the semiconductor multilayer is cleaved, divided along the plane R to form the cleaved plane connected with the semiconductor multilayer and the substrate. Since the

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cleaved plane of the semiconductor multilayer is an extremely smooth plane, the cleaved plane can be used for reflection plane for laser resonator use of the semiconductor multilayer.

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